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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,557	11/21/2003	Satoshi Tamura	60188-716	8470

7590 07/27/2005

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EXAMINER	
ROSE, KIESHA L	

ART UNIT	PAPER NUMBER
2822	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/717,557	TAMURA ET AL.	
	Examiner	Art Unit	
	Kiesha L. Rose	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/21/03,6/13/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the election filed 13 May 2005.

Election/Restrictions

Claims 31-37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method of making a semiconductor device, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 13 May 2005.

Applicant's election without traverse of claims 1-30 in the reply filed on 13 May 2005 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7 and 15-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Chua et al. (U.S. Publication 2003/0231683).

Chua discloses a nitride based semiconductor structure (Figs. 2 and 4) that contains a semiconductor multilayer structure comprising a plurality of Group III-V nitride semiconductor layers (108-114) including two semiconductor layers of different conductivity types, a passivation film (116) formed on the semiconductor multilayer structure and has an interface with the semiconductor and a transparent electrode (118) formed on the semiconductor multilayer structure where the passivation film is not formed, wherein the transparent electrode contains an impurity element developing the same conductivity type as that of an impurity element introduced into a semiconductor in the semiconductor multilayer structure and the semiconductor having an interface with the transparent electrode wherein the impurity elements are magnesium and zinc, the transparent electrode is made of indium tin oxide, a multilayer film (126) on the transparent electrode that reflects light emitted from the semiconductor and includes a plurality of dielectric layers and is made of silicon oxide and tantalum oxide, the multilayer film can also be formed on the side of the semiconductor multilayer structure opposite the transparent electrode (Fig. 2, the multilayer (126) is formed on the sides of the transparent electrode.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iechika et al (JPO 07-302770).

Chua discloses a nitride based semiconductor structure (Figs. 2 and 4) that contains a semiconductor multilayer structure comprising a plurality of Group III-V nitride semiconductor layers (108-114) including two semiconductor layers of different conductivity types, a transparent electrode (118) formed on the semiconductor multilayer structure, wherein the transparent electrode is made of indium tin oxide, a multilayer film (126) on the transparent electrode that reflects light emitted from the semiconductor and includes a plurality of dielectric layers and is made of silicon oxide and tantalum oxide, the multilayer film can also be formed on the side of the semiconductor multilayer structure opposite the transparent electrode (Fig. 2, the multilayer (126) is formed on the sides of the transparent electrode. Chua discloses all the claimed limitations except for the transparent electrode containing a metal element that absorbs hydrogen. Whereas Iechika discloses a light emitting device that contains a transparent electrode that contains nickel. Nickel is implanted in the transparent electrode to have a small contact resistance. (Paragraph 13) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Chua by incorporating the transparent electrode to have nickel for small contact resistance as taught by Iechika.

Claims 23-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chua in view of Wu et al. (U.S. Patent 5,451,474).

Chua discloses a nitride based semiconductor structure (Figs. 2 and 4) that contains a semiconductor multilayer structure comprising a plurality of Group III-V nitride semiconductor layers (108-114) including two semiconductor layers of different conductivity types, a passivation film (116) formed on the semiconductor multilayer structure, a transparent electrode (118) formed on the semiconductor multilayer structure where the passivation film is not formed, wherein the transparent electrode is made of indium tin oxide, a multilayer film (126) on the transparent electrode that reflects light emitted from the semiconductor and includes a plurality of dielectric layers and is made of silicon oxide and tantalum oxide, the multilayer film can also be formed on the side of the semiconductor multilayer structure opposite the transparent electrode (Fig. 2, the multilayer (126) is formed on the sides of the transparent electrode. Chua discloses all the claimed limitations except for the passivation film containing a metal element that absorbs hydrogen. Whereas Wu discloses a semiconductor device that contains a passivation film that contains palladium. The passivation film contains palladium because of its good reaction to absorb hydrogen. (Column 4, lines 5-10) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention to have the passivation film to contain palladium because of its good reaction to absorb hydrogen as taught by Wu.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiesha L. Rose whose telephone number is 571-272-1844. The examiner can normally be reached on M-F 8:30-6:00 off 2nd Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KLR

Michael Trinh
Primary Examiner
Act SPE